

Entry of the proposed amendment and reconsideration of the above-identified application is request in view of the following remarks.

REMARKS

Status of the Claims

Claims 1-6 are sought to be cancelled without prejudice to or disclaimer of the subject matter therein.

Claims 7-10, and 12 are pending, with claim 7 being the sole independent claim.

Claims 7-10, and 12 have been rejected.

Based on the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 7-10, and 12 under 35 U.S.C. § 103 as being unpatentable over Falcoff *et al.*, U.S. Patent No. 4,403,866 in view of Phillips *et al.*, U.S. Patent No. 6,241,858. Applicants respectfully traverse this rejection.

According to the Examiner, Falcoff *et al.* discloses “a process for making paints comprising: an interference effect pigment reactor 13; a flow cell in communication with the reactor; and a colorimeter, interface with said flow cell for measuring the characteristic of the flow cell sample, such as L*, a* and b* values of the paint being prepared.” See Office Action at page 2, last paragraph.

The Examiner further contends that Phillips *et al.* discloses “a method and apparatus for enhancing pigment comprising: means for establishing color difference by

difference by measuring the L*, a* and b* values of the light beams, wherein a goniospectrophotometer is used at angles 10-60 degrees for taking the measurement; a very thin coating of mica (about 1 mil thick) is used on the surface material of TiO₂ (high refractive index material) to produce the best chromatic colors. See Office Action at page 3, third paragraph.

The Examiner then concludes that “[i]n view of Phillips *et al.*’s teachings, it would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the teaching of Falcoff *et al.* to employ a goniospectrophotometer in lieu of the colorimeter for describing color shifting pigments.” See Office Action at page 3, third paragraph. Applicants respectfully traverse this rejection.

Falcoff et al. does not teach a method of pigment preparation comprising coating a platy substrate with a hydrous layer

The invention as presently claimed is directed to a “[m]ethod for continuously controlling the color of an interference effect pigment during pigment preparation comprising coating a platy substrate with a hydrous layer to form a pigment.” See claim 7 (emphasis added). Whereas, Falcoff *et al.* is directed to a method of mixing paints. According to Falcoff *et al.*,

the computer determines the amount of each of the colorants that is to be added to bring the paint within the tolerance values for the paint and activates the metering pumps which feed colorants into a mixing vessel. The above procedure, commonly called shading, being repeated until the paint being prepared is within L*, a*, and b* tolerance values of the paint.

See col. 4, line 68 through col. 5, line 6 (emphasis added). Falcoff *et al.* is specifically concerned with forming a liquid paint and controlling the color of the liquid paint, not the

specific pigment, which forms the paint. Thus, there is no pigment coating reaction that takes place, rather only the mixing of different colorants until the correct ratio is realized to give the desired color. In contrast, and as previously described, the present invention is directed to a method of producing a hydrous layer coated pigment. Falcoff *et al.* does not teach or suggest a method of pigment preparation. Furthermore, Falcoff *et al.* does not teach or suggest comprising coating a platy substrate with a hydrous layer to form a pigment. Falcoff *et al.* only discloses a method of mixing multiple colorants to achieve a desired paint color. Therefore, Applicants respectfully submit that Falcoff *et al.* does disclose or suggest all the claim limitations of the present invention.

The Examiner states that “[w]ith respect to coating a hydrous layer onto said platy substrate to form the pigment, applicant has admitted that such a process is very common in the art, which therefore, obvious.” See Office Action at page 4, second paragraph. Applicants readily admit that coating a hydrous layer to form an interference pigment is common in the art, however, the continuous monitoring of the color achieved by the coated substrate (pigment) so that the coating process can be continued or terminated has not previously been done. The Examiner cannot rely on the disclosure of the present invention in applicant’s own application to find that the claimed invention is obvious.

Phillip et al. does not overcome the failure of Falcoff et al. to teach pigment preparation comprising coating a platy substrate with a hydrous layer

The Examiner points out that Phillip *et al.* discloses the use of a goniospectrophotometer. However, Phillips *et al.* does not teach or suggest a continuously controlled method of pigment preparation, wherein said pigment is prepared

by coating a platy substrate with a hydrous layer to form a pigment. See claim 7. Rather, Phillips *et al.* differs in at least this one key respect, Phillips *et al.* discloses a method “for uniformly depositing a coating material from a vaporization source onto a powdered substrate material to form a thin coalescence film.” See the Abstract of Phillips *et al.* (emphasis added). Whereas, the present invention requires coating a platy substrate with a hydrous layer to form a pigment. Therefore, Phillips *et al.* fails to disclose all the limitations of the present invention, and does not and cannot render the present invention obvious.

Phillip et al. does not teach or suggest the use of a continuous process

The Examiner contends that Phillips *et al.* discloses a continuous method stating that Phillip *et al.* “continuously monitor the content by taking measurement [sic] at different angles until a proper match is achieved.” See Office Action at page 4, third paragraph (emphasis added). Applicants respectfully disagree.

The Examiner has failed to provide support for this contention. Despite Applicants good faith effort to identify such support in Phillips *et al.*, Applicants have been unable to do so, and do not believe that such support can be found. Specifically, Phillips *et al.*’s teachings regarding color management are not conducted while the pigment is being made by a coating process. In fact, it is clear from Examples 8-10 of Phillips *et al.* that the method used in Phillips *et al.* requires forming a pigment, filtering, calcining the sample, suspending the pigment in a carrier, coating a paper card with the sample, and comparing the interference effects of the dried sample with a standard. According to Phillips *et al.* a sample is sprayed out on white or black paper background.

See, *e.g.*, Examples 8-10, col. 22, line 4 through col. 24, line 39. The present invention eliminates these time consuming steps, as well as the inevitable delays, which occur in the real world execution of this conventional process. In fact, the present invention is directed to a method for continuously controlling the color during pigment preparation wherein:

[d]uring the process of forming the pigment, a substrate, such as mica, is coated with a high refractive index material, generating an interference color. To evaluate the coating process and the interference color, an aliquot of the dispersion of in-process platy effect pigment is pumped through the flow cell 20. Light 30 emitted from an emitter 32 reflects off the pigment dispersion 22. The color of the reflected light 34 is measured at predetermined time intervals. When the reflected light color matches the reflected light characteristics of a selected dispersion standard, the coating process is halted.

See Specification at page 7, lines 8-15. Phillips *et al.* does not teach or suggest the use of a “[m]ethod for continuously controlling the color of an interference effect pigment during pigment preparation comprising coating a platy substrate with a hydrous layer to form a pigment.” See claim 7 (emphasis added). In fact, Phillips *et al.* is not remotely concerned with continuing or terminating the continuous reaction process claimed in the present invention. Thus, Phillips *et al.* does not and cannot render the claimed invention obvious.

Falcoff et al. does not teach the reaction method of the present invention

The Examiner also states that, the function of the apparatus disclosed in Falcoff *et al.* “serves the same function as the claimed reactor... to process the paint so as to form specific pigments for color matching.” See Office Action at page 4, second paragraph (emphasis added). Applicants respectfully contest this assertion.

Applicants respectfully point out that nowhere in Falcoff *et al.* is an “interference effect pigment reactor” disclosed as the Examiner contends. In fact, Falcoff *et al.* does not even suggest the use of an “interference effect pigment reactor,” but rather only discloses a paint mixer. Falcoff *et al.* states, “the components used to make the paint are metered into a mixing vessel 13 containing a mixer 14 having a mixing blade attached to a shaft and driven by a motor 15. The components are thoroughly mixed ...” See col. 3, line 55 to line 58 (emphasis added). While it is true that both Falcoff *et al.*, and the Applicants disclose “an apparatus,” Applicants have pointed out above, the key differences between the methods of the present invention and those of Falcoff *et al.* Specifically, that Falcoff *et al.* does not disclose a method for “pigment preparation comprising coating a platy substrate with a hydrous layer to form a pigment.” See claim 7 (emphasis added). Furthermore, in the interests of furthering prosecution, and placing the claims in better position for appeal, Applicants have cancelled all claims relating to the disclosed apparatus of the present invention.

The invention as presently claimed is not rendered obvious by the combination of Falcoff et al. and Phillip et al.

Falcoff *et al.* does not and cannot render the claims of the present invention obvious to one of skill in the art, because Falcoff *et al.* fails to disclose or suggest all of

the claim limitations of the present invention. This deficiency is not overcome by combining the teachings or suggestions of Phillips *et al.* with Falcoff *et al.* Similarly, Phillips *et al.* does not teach or suggest the coating a platy substrate with a hydrous layer to form a pigment. Furthermore, Phillips *et al.* fails to disclose a method of continuously controlling pigment preparation. It is the monitoring of the color achieved by the pigment itself during formation of the pigment, which is the essence of this invention and is a process not taught or suggested in either of the references alone or in combination. Therefore, Applicants respectfully point out that the invention as presently claimed cannot be and is not rendered obvious by the combination of Falcoff *et al.* and Phillips *et al.*

CONCLUSIONS

Applicants respectfully point out that the combination of Falcoff *et al.* and Phillips *et al.* fail to teach or suggest all of the claim limitations of the present invention. Therefore, the combination of Falcoff *et al.* and Phillips *et al.* does not and cannot render the claimed invention obvious to one of skill in the art. Applicants respectfully request reconsideration and withdrawal of the Examiner's rejection under 35 U.S.C. § 103.

Respectfully submitted,

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Date

Phillip R. Kiefer
Phillip R. Kiefer
Reg. No. 55,326

Law Office of Stuart D. Frenkel, P.C.
3975 University Drive, Suite 330
Fairfax, VA 22030
Telephone: (703) 246-9641
Facsimile: (703) 246-9646